

## REMARKS

The above amendments to the above-captioned application along with the following remarks are being submitted as a full and complete response to the Official Action dated September 29, 2003. In view of the above amendments and the following remarks, the Examiner is respectfully requested to give due reconsideration to this application, to indicate the allowability of the claims, and to pass this case to issue.

### Status of the Claims

Claims 1-7, 9-17 and 19-20 are under consideration in this application. Claims 8 and 18 are being canceled without prejudice or disclaimer. Claims 1-5, 7, 9-15, 17, 19-20 are being amended, as set forth in the above marked-up presentation of the claim amendments, in order to more particularly define and distinctly claim applicants' invention.

### Additional Amendments

The claims are being amended to correct formal errors and/or to better disclose or describe the features of the present invention as claimed. All the amendments to the claims are supported by the specification. Applicants hereby submit that no new matter is being introduced into the application through the submission of this response.

### Formality Rejection

The drawings were objected to for failing to show every feature of the invention set forth in the claims, and claims 4 and 14 were objected for minor informalities. Claims 1-20 were rejected under 35 U.S.C. § 112, first paragraph, for failing to disclose the invention in the specification in such a way that it could be reasonably conveyed to a person skilled in the art. Claims 1-20 were also rejected under 35 U.S.C. § 112, second paragraph, as being vague and indefinite.

The semiconductor laser according to the invention, as now recited in claim 1, comprises: a semiconductor substrate 101; a core region defined by an active layer 105 (or further including layers 104, 106) formed on one side of the semiconductor substrate 101; and a clad region defined by at least one clad layer 107, 108 overlaying the active layer 105. The core region has a gain region (i.e., an active region) with a length not smaller than **18** micrometers and not greater than 200 micrometers (e.g., 100  $\mu\text{m}$  long in Fig. 1) along an optical axis of at least the core

region or the clad region; at least one of the core region and the clad region has a stripe shape with a width modulated in a direction perpendicular to the optical axis such that the width is narrower in the vicinity of ends of the gain region (e.g., 12.5  $\mu\text{m}$  long, 1.6  $\mu\text{m}$  wide in Fig. 1) than a center portion thereof (e.g., 75  $\mu\text{m}$  long, 6  $\mu\text{m}$  wide in Fig. 1; page 6, line 25).

The invention, as now recited in claim 11, is also directed to a semiconductor laser comprising: a semiconductor substrate; a core region defined by an active layer (page 6, line 15) formed on one side of the semiconductor substrate; and a clad region defined by at least one clad layer at least overlaying the active layer. The core region has a gain region with a length not smaller than 5 micrometers and not greater than 200 micrometers.

The invention is further directed to an optical module comprising at least an optical fiber for introducing light outside and a semiconductor laser as recited in claim 1 or claim 11.

As recited in claim 2 and 12, the center portion within the gain region forms a multi-lateral-mode waveguide 114 which includes the whole gain region (e.g., 100  $\mu\text{m}$  long in Fig. 1). As recited in claims 7 and 17, a diffraction grating is formed in the lateral-mono mode waveguide portion to provide a Bragg reflector (“*distribution reflector*” page 12, line 4) therein.

As indicated, the claims have been amended to overcome the informality objections and rejections. Accordingly, the withdrawal of the outstanding informality rejection is in order, and is therefore respectfully solicited.

In view of all the above, clear and distinct differences as discussed exist between the present invention as now claimed and the prior art reference upon which the rejections in the Office Action rely, Applicant respectfully contends that the prior art references cannot anticipate the present invention or render the present invention obvious. Rather, the present invention as a whole is distinguishable, and thereby allowable over the prior art.

Favorable reconsideration of this application is respectfully solicited. Should there be any outstanding issues requiring discussion that would further the prosecution and allowance of the

above-captioned application, the Examiner is invited to contact the Applicants' undersigned representative at the address and phone number indicated below.

Respectfully submitted,

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**December 29, 2003**

SPF/JCM/JT